Michele L. Silverstein, Ph.D.

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Education

- **Doctor of Philosophy in Astronomy** — Georgia State University, 2019
- **Master of Science in Physics** — Georgia State University, 2016
- **Bachelor of Arts in Physics, Astronomy Concentration** — Cornell University, 2012

Professional Memberships and Affiliations

- Research Consortium on Nearby Stars (RECONS) Affiliate
- TESS Follow-up Observing Program Member
- NASA ExoPAG SIG 2: Exoplanet Demographics Member
- American Astronomical Society Full Member
- International Astronomical Union Junior Member
- Sigma Xi, The Scientific Research Honor Society Full Member

Research Experience

- **National Research Council (NRC) Research Associate** — **August, 2023 - December, 2025**
  U.S. Naval Research Laboratory — *Advisor: Dr. Tracy Clarke*
  - Discovered 340 MHz emission from an ultra-cool dwarf for the first time using the VLITE system at the VLA (publication under review).
  - Led deep characterization of a nearby bright main sequence star with unexpected properties.
  - Characterized transiting exoplanets and studying exoplanets orbiting stars at the M dwarf fully convective boundary.
  - Managed the institute's astronomy seminar series: selected speakers, coordinated schedules, facilitated hybrid events, and navigated internal federal approval processes.
  - Topics: stellar magnetism, radio astronomy, fully convective stars, M dwarfs, ultracool dwarfs, stellar flares, stellar rotation, exoplanet atmospheres, transiting exoplanets, exoplanet demographics

- **Postdoctoral Research Associate** — **August, 2022 - July, 2023**
  University of Maryland, Baltimore County & NASA GSFC — *Advisor: Dr. Joshua E. Schlieder*
  - Led a peer-reviewed transiting exoplanet characterization project and publication involving 27 contributors worldwide, spanning junior to senior levels.
  - Derived stellar fundamental properties key to a stellar flares program, putting the star in context and calibrating TESS data.
  - Analyzed ground-based time series photometry observations of stellar flares.
  - Mentored early-career talent and supported their advancement to competitive academic programs. One high school student probed star-planet interactions in Jao Gap exoplanet systems to understand their unique habitable zone properties.
  - Topics: star-planet interactions, stellar fundamental properties, M dwarfs, star and exoplanet demographics, exoplanet atmospheres, stellar flares, transiting exoplanets

- **NASA Postdoctoral Program (NPP) Fellow** — **August, 2019 - July 2022**
  NASA Postdoctoral Program, NASA Goddard Space Flight Center — *Advisor: Dr. Joshua E. Schlieder*
  - Managed multiple research initiatives and cross-agency collaborations (up to 51 contributors), publishing in peer-reviewed journals.
  - Led the discovery and characterization of the LHS 1678 exoplanet system, coordinating a global, 51-person team. Data included ground-based high-contrast imaging, spectroscopy, photometric time series, and astrometry.
  - Characterized the spectral properties of low-mass flare stars for the Goddard Flares Collaboration. Applied results to simultaneous space- and ground-based time series photometry observations of stellar flares.
  - Mined archival photometry data to derive stellar fundamental properties.
  - Recommended solutions to NASA policy challenges with hiring and housing, contributing to improved workforce support.
  - Topics: transiting exoplanets, M dwarfs, stellar fundamental properties, stellar flares, optical astronomy, star and exoplanet demographics

- **Graduate Researcher** **Fall 2012 - Summer 2019**
  RECONS Institute & Georgia State University *Advisor: Prof. Todd J. Henry*
  Dissertation Title: Sizing Up Red Dwarfs in the Solar Neighborhood || Topic: fundamental properties of ∼1600 low-mass stars, with emphasis on radius, age, and magnetic activity. Developed software to extract these measurements by comparing optical and IR photometry and astrometry to spectral models. || Master's project: search for debris disks around nearby GKM stars using infrared WISE photometry. || Six months of on-site and remote ground-based observing. || Led astrometry portion of Riedel et al. 2018 paper, including orbit fitting and first-ever parallax distance estimates, for dozens of nearby star systems.

- **NASA Intern** **Summer 2012**
  Goddard Space Flight Center, Greenbelt, MD *Mentor: Dr. Negar Ehsan*
  Completed the construction of a terahertz frequency light source used to characterize silicon and other samples and test properties of instrument components such as filters, antennas and dividers related to the MicroSpec wafer-scale spectrometer.

- **Undergraduate Research Assistant** **Fall 2010, Spring 2012**
  Cornell University, Ithaca, NY *Mentor: Prof. Gordon Stacey*
  Wrote a PID control loop using LabVIEW to maintain the bolometer temperature in the submillimeter spectrometer, ZEUS II. Integrated PID loop with existing software and hardware. Wrote a stepper motor control LabVIEW program to improve control of ZEUS II's cooling system.

- **Research Experiences for Undergraduates (REU) Fellow** **Summer 2011**
  Stony Brook University, Stony Brook, NY *Mentor: Prof. Michal Simon*
  Devised a method to check stars for cool debris disks using Microsoft Excel and the WISE database. Contributed to understanding of several cool debris disks in the nearby young moving group Eta/Epsilon Chameleon.

- **Undergraduate Research Assistant** **Spring 2011**
  Cornell University, Ithaca, NY *Mentor: Dr. Kevin Covey*
  Developed an IDL program to analyze NGC 752 open cluster data and search for transiting planets.

Ground-based Observatory Experience

- **SMARTS Graduate Fellowship (Telescope Management)** **July, 2015 - June, 2018**
  Georgia State University
  - Planned and tracked a 3-year, 400-object observing campaign across international observatories
  - Maintained and optimized data pipelines, documentation, and quality control for new camera systems and telescope software
  - Scheduled global researcher visits and coordinated their technical and scientific needs, including travel and observational goals
  - Supported the 2016 commissioning of a new camera control system on the SMARTS 0.9m in Chile and led the updates to the raw data processing and photometry reduction pipelines. I tested the new hardware's functionality on-site and remotely, and wrote new up-to-date sections of the observing and data reduction guides. There was time pressure to complete this commissioning due to costs, observing time demand, and the RECONS astrometry program's requirement to take observations monthly to bimonthly for thousands of targets.
  - Duties:
    - Advertise the SMARTS 1.5m, 1.3m, and 0.9m telescopes
    - Schedule time on the SMARTS 0.9m telescope
    - Serve as 0.9m user support
    - Maintain 0.9m computer disks
    - Save and flat field+bias subtract all RECONS data
    - Fully reduce all RECONS photometry
    - Perform RECONS astrometry and photometry observations solo for ∼10 nights bi-yearly

- Modernize and update the SMARTS 0.9m manual
- Smooth transitions to updated systems and engineering

- **Observing Experience** **February, 2011 - January, 2018**

Six ground-based optical observatories in both hemispheres, on-site and remote

Project key for list below:
- *Project 1: Photometry of Nearby Red Dwarfs (M. Silverstein's PhD Thesis)*
- *Project 2: Time Series Photometry of Potentially Variable Red Dwarfs (T. Clements' PhD Thesis)*

WIYN 0.9m Telescope Observer (32 nights)
- *Kitt Peak National Observatory (KPNO)*
- Instrument: Half Degree Imager, VRI filters
- Runs on-site, no operator, solo
- 2016B-2017B
- Projects: Photometry projects 1 and 2

SMARTS 0.9m Telescope Observer (87 nights)
- *Cerro Tololo Inter-American Observatory (CTIO)*
- Instrument: Tek2K CCD, VRI filters
- Runs on-site, no operator, solo, filled dewar
- 2014A-2017A
- Projects:
  - Photometry projects 1 and 2
  - Stellar photometry for other RECONS team member projects
  - Photometry of several galaxies and asteroids for other graduate student projects (1 night)
  - Astrometry of Nearby Stars (The RECONS 25 Parsec Database and other related projects)

ARCSAT 0.5m Telescope Observer (70 nights)
- *Apache Point Observatory (APO)*
- Instrument: SurveyCam, VRI filters
- Runs remote, no operator, mostly solo
- 2014A-2016B
- Projects: Photometry projects 1 and 2

ARC 3.5m Telescope Observer (2 half-nights)
- *Apache Point Observatory (APO)*
- Instrument: ARC Echelle Spectrograph (ARCES)
- Run remote, partial operator, led by T. Clements
- 2016B
- Project: Echelle Spectroscopy of Nearby Red Dwarfs (T. Clements' PhD Thesis)

Gemini South Telescope Observer (1 night)
- *Gemini Observatory, Cerro Pachon, Chile*
- Instrument: Differential Speckle Survey Instrument (DSSI)
- Run on-site, partial operator, led by DSSI team
- 2016A
- Project: Speckle Imaging of Nearby Stars (to determine multiplicity fractions of K and M dwarfs)

Hale Telescope Observer (3 nights)
- *Palomar Observatory*
- Instrument: TripleSpec Exoplanet Discovery Instrument (TEDI)
- Run on-site, partial operator, led by P. Muirhead
- 2011A
- Project: Spectroscopy and interferometry of stars. (My first observing experience, thanks to then-graduate-student P. Muirhead.)

- ***Observing Time Awarded as Principal Investigator***:
  - 29 nights of WIYN 0.9m time granted via NOAO (now NOIRLab)
  - 70 nights of ARCSAT time granted via ARC observing proposals (∼half lost to tech issues and weather)
  - Space-based: TESS Guest Investigator Program targets observed during Cycles 3 & 4 (Programs G03226 & G04188)
- ***Skills further described in "Skills, Tools, and Techniques" section***

Additional Training

- **Code/Astro 2025 Workshop** **August, 2025**
  Virtual *https://semaphorep.github.io/codeastro/*
  - Week-long software engineering workshop. The focus was on software development from scratch to a publicly available package for the astronomical community. Topics included version control, testing, collaboration, documentation, and installation.
  - GitHub repository for final software package located at `https://github.com/rohankane22/OrbitVisualization`
- **Roman Space Telescope Cloud Platform Workshop** **January, 2025**
  AAS 245, National Harbor Maryland *https://aas.org/meetings/aas245/workshops*
  - Full name: "Preparing for the Nancy Grace Roman Space Telescope: The New Cloud Science Platform"
  - One-day workshop on the cloud platform that will host the Roman Space Telescope data. Trained to use data simulation and reduction tools.
- **Second La Serena School for Data Science 2014** **August, 2014**
  AURA Campus, La Serena, Chile *Mentor: Prof. Amelia Bayo*
  - Week-long intensive school devoted to introducing machine learning, Bayesian statistics, MySQL, Python, the Virtual Observatory and other relevant tools for working with big data.
  - Developed and worked through a group project searching for high proper motion objects using MySQL and various Virtual Observatory tools, including Aladin and TOPCAT, and identified brown dwarfs using machine learning.

Skills, Tools, and Techniques

Programming Languages
- Python & IDL
- Basic knowledge of Bash, SQL, LabVIEW, HTML, MATLAB, & Java

Operating Systems
- Linux, Mac OS, & Windows

Astronomy Topic Expertise
- Fundamental Properties of Low-mass Stars
- Transiting Exoplanets
- M Dwarf Exoplanets
- The M Dwarf Fully Convective Boundary
- M Dwarf Magnetic Activity
- The Solar Neighborhood
- Young Stars, Subdwarfs, and Unresolved Binaries
- Star-planet Interactions

Software Packages and Tools
- CDS Tools: Aladin, VizieR, Simbad
- Python Packages: numpy, astropy, pandas, matplotlib, lightkurve
- IRAF
- AstroImageJ
- LaTeX
- Git
- Confluence
- TOPCAT & Stilts
- ChatGPT Prompt Engineering
- Stellarium
- PyBDSF
- AutoCAD

Miscellaneous
- Communication Skills: 38+ presentations, outreach, mentoring, and teaching
- Award Winning: 4 grants and 9 observing proposals as principal investigator, 9 grants/observing proposals as co-investigator, 2 awards for best presentation
- Experience combining new and archival datasets spanning radio to X-ray regimes. Data include photometry, astrometry, imaging, inteferometry, and spectroscopy observations, from both ground- and space-based facilities.
- Project Management Skills: Project Management Professional certification expected December 2025

Specialized Observing and Telescope Expertise

- Telescope and Instrument Management (see SMARTS Graduate Fellowship)
- Solo Observing Runs: experience with 7+ night runs, with no telescope operator or assistant
- Project Management: multi-year all-sky observational program for hundreds of stars, spanning over 3 years
- Photometry and Astrometry
  - Observations, Data Reduction, and Utilization within Research
  - Astrometry to Derive Distances & Proper Motions, Detect Stellar Companions, and Map Orbits
  - Photometry to Derive Magnitudes of Stars and, occasionally, AGN and Trojan Asteroids
  - Time Series Photometry (Ground-based & TESS) Spanning Hours to Decades
- Observing Run Planning: three months worth of observing while balancing 10+ projects within a night, accounting for weather possibilities and the urgency of different targets

Teaching and Mentoring Experience

- **High School Student Non-research Mentor** **June, 2022 - August, 2023**
  NASA Goddard Space Flight Center (Hybrid)
  Mentored a student from Bishop McNamara High School as part of NASA program to network students with scientists. The key goals of the program were for the students to shadow a scientist and foster a continued mentoring relationship for one year. The student I was paired with was interested in several topics, none of which overlapped with my background in astronomy. During her visit, I arranged for her to meet with an ensemble of Earth and atmospheric scientists. We also met virtually with a colleague from my time in college who was involved in ecology and has experience in politics. The result was very successful networking for this student and the discovery of several summer programs she could participate in as a stepping stone to her future career.

- **High School Student Research Mentor** **June, 2022 - August, 2023**
  NASA Goddard Space Flight Center (Virtual)
  Worked virtually with a high school student on an exoplanet atmospheres and star-planet interaction project. I've introduced him to several astronomers at varying career stages, within and beyond NASA, who are experts in the exoplanet atmospheres portion of the project and have become our collaborators. The student learned about the state of field and how astronomers often team up to investigate a research problem. We had weekly one-on-one meetings where we worked together to decide next steps and do research in real time, e.g., by making a new plot or running new software. We also focused on the student's career and education goals, considering universities together and networking with scientists at NASA and beyond. The student produced a paper draft for publication and a competition and participated in a presentation competition as part of the Pelham Memorial High School Science Program in Westchester, NY. I was proud to write him a letter of recommendation, and he now attends Cornell University.

- **Summer Intern Non-research Mentor** **Summer, 2021**
  NASA Goddard Space Flight Center (Virtual)
  Volunteered to be a NASA scientist that interns could meet and chat with as part of their summer experience and networking. Following an initial meeting, met weekly with two undergraduate women interns just to chat about their experience and concerns, my career experience, and whatever came to mind. In addition to providing better immersion in the NASA community given the virtual environment, part of my goal was to be someone the interns could reach out to who wasn't their summer research advisor, as it is important to have a broad range of mentors. These two interns are now actively pursuing their PhDs.

- **Undergraduate Research Mentor** **Summer 2016**
  Georgia State University, Atlanta, GA

Guided a first year undergraduate through his first experience in research and computer programming. He undertook a small project to analyze how/whether the WISE photometry data of several hundred stars were being affected by neighboring sources. The project exposed him to some of the basic, yet fundamental, ways of looking at and working with stellar data; he downloaded and worked with datasets from VizieR and manually examined and analyzed images using Aladin. He compiled a table of data containing all of the relevant stellar parameters, made notes about stars of particular interest or complexity, and created plots using Python that revealed the answer of how data for several hundred of our stars are influenced by their neighbors. I chose Python as his first programming language because not only is it growing in popularity among the astronomical community, but also among technical fields beyond academia. He learned and gained experience in basic data analysis, how to use several prominent online astronomy tools, the basics of coding in Python, and how to write up results, which he presented in a one-page document.

- **Graduate Teaching Assistant** **Fall 2012 - Spring 2016**
  Georgia State University, Atlanta, GA
  Taught up to three (varying by semester) 2-hour introductory astronomy laboratory sections per week. Responsibilities included grading, a short lecture at the start of each class, guiding students through each lab, and hosting an on-campus opportunity to use a telescope and experience observing. Students hailed from a variety of backgrounds, socioeconomically, culturally, across a range of ages, and with different education experiences.

Astronomy 1010 Laboratory Class	10 Semesters	15 Labs
Astronomy 1020 Laboratory Class	2 Semesters	4 Labs

Additional communication experience can be found under Outreach, Publications, and Presentations.

Outreach

- **AstroTerps Club Meeting Presentation and Discussion** **November 9, 2021**
  AstroTerps at University of Maryland, College Park (Virtual)
  Presented my research and career path, including ups and downs, at a meeting of the AstroTerps (similar to an astronomy club) at the University of Maryland. We engaged in discussion on both topics, with a group that included undergraduates in various fields of study.
- **Hard Labor Creek Observatory Open House** **2012-2018**
  Hard Labor Creek State Park, Rutledge, GA *organized by Georgia State University*
  Opened the Hard Labor Creek Observatory for public viewing of several astronomical objects on a variety of telescopes. Those who attend get the benefit of dark skies and 5+ astronomers to demonstrate how each telescope works and discuss what is being observed. Graduate Student Lead: 2 Nights, Volunteer: 12 Nights
- **Total Solar Eclipse Viewing Party** **August 21, 2017**
  Rabun Gap-Nacoochee School, Rabun Gap, GA *organized in part by Georgia State University*
  - Co-scripted, narrated and performed in the ∼10 minute introduction and safety video shown to all attendees.
  - Prepared materials (drilled holes in tubes, etc.) for the children's pinhole camera activity at the event.
  - Volunteered at the event — setup and clean up, helping children build a pinhole camera, manning an Hα telescope, and talking to attendees.
- **Girl Scouts Astronomy Workshop** **2013-2017 (8 events)**
  Georgia State University, Atlanta, GA *organized by Prof. Misty Bentz*
  - A workshop exploring the Sun, the solar system and different types of light.
  - Led a craft where the girls built a spectroscope using materials that could be found at home and a small diffraction grating. The girls also explored using their spectroscopes on various light sources including an incandescent light bulb and spectrum tubes containing neon, hydrogen, and several other elements.
  - Led a craft creating a filter wheel using some plates and red, yellow, and blue transparent paper. The girls then got to look at a Lite-Brite to see how the filters changed what they could see.
- **Creative Lessons in Astronomy and Space Science (CLASS) Contest** **May 15, 2015**
  IAU Symposium 314: Young Stars & Planets Near the Sun, hosted by GSU

Assisted middle school students in a workshop exploring astronomy and rocket launches using the Kerbal Space Program.

- **Girl Scouts Sky Badge Workshop** **March 2, 2013**
  Hard Labor Creek State Park, Rutledge, GA *organized by Prof. Misty Bentz*
  Introduced high school aged Girl Scouts to the local Hard Labor Creek Observatory and its telescopes. Explored how to use a sky chart, tell which way is north, and other skills. Answered any questions the girls had about astronomy or related topics.
- **Science Olympiad "Reach for the Stars" Activity** **February 16, 2013**
  Georgia State University, Atlanta, GA *organized by Dr. John Wilson*
  A regional competition between middle schools. Provided a fun way to test material the students had studied for the event, according to the "Reach for the Stars" theme.
- **Expand Your Horizons** **April, 2010**
  Cornell University, Ithaca, NY
  Utilized fun physics-related activities in an effort to impart an interest in science on middle school aged girls. The students constructed a small aluminum foil boat of their own design and tested each one to see which boat (and which design) would hold the most pennies before sinking in water.

Publications

Published and Peer-reviewed (19)

1. Rachel B. Fernandes, Samson Johnson, Galen J. Bergsten, ..., **Michele L. Silverstein**, et al. **2025**, *Are We There Yet? Challenges in Quantifying the Frequency of Earth Analogs in the Habitable Zone*, PASP, 137, 121001F
2. Dale A. Frail, Scott D. Hyman, **Michele L. Silverstein**, et al. **2025**, *A Radio Flaring, Chromospherically-Inactive K Dwarf*, ApJ, 989, 186F
3. Dale A. Frail, Emil Polisensky, Scott D. Hyman, ..., **Michele L. Silverstein**, et al. **2024**, *An Image-based Search for Pulsar Candidates in the MeerKAT Bulge Survey*, ApJ, 975, 34F
4. Rishi R. Paudel, Thomas Barclay, Youngblood, Allison, ..., **Michele L. Silverstein**, et al. **2024**, *A Multiwavelength Survey of Nearby M dwarfs: Optical and Near-Ultraviolet Flares and Activity with Contemporaneous TESS, Kepler/K2, Swift, and HST Observations*, ApJ, 971, 24P
5. **Michele L. Silverstein**, Thomas Barclay, Joshua E. Schlieder, et al. **2024**, *Validation of a Third Planet in the LHS 1678 System*, AJ, 167, 255S
6. Elisa V. Quintana, Emily A. Gilbert, Thomas Barclay, **Michele L. Silverstein**, et al. **2023**, *Two Warm Super-Earths Transiting the Nearby M Dwarf TOI-2095*, AJ, 166, 195Q
7. Benjamin Hord, Knicole Colón, Travis A. Berger, ..., **Michele L. Silverstein**, et al. **2022**, *The Discovery of a Planetary Companion Interior to Hot Jupiter WASP-132 b*, AJ, 164, 13H
8. **Michele L. Silverstein**, Joshua E. Schlieder, Thomas Barclay, et al. **2022**, *The LHS 1678 System: Two Earth-Sized Transiting Planets and an Astrometric Companion Orbiting an M Dwarf Near the Convective Boundary at 20 pc*, AJ, 163, 151S
9. Rishi R. Paudel, Thomas Barclay, Joshua E. Schlieder, ..., **Michele L. Silverstein**, et al. **2021**, *Simultaneous Multiwavelength Flare Observations of EV Lacertae*, ApJ, 922, 31P
10. Justin H. Robinson, Misty C. Bentz, Hélène M. Courtois, ..., **Michele L. Silverstein**, et al. **2021**, *Tully-Fisher Distances and Dynamical Mass Constraints for 24 Host Galaxies of Reverberation-Mapped AGN*, ApJ, 912, 160R
11. William C. Waalkes, Zachory K. Berta-Thompson, Karen A. Collins, ..., **Michele L. Silverstein**, et al.

2021, *TOI 122b and TOI 237b, two small warm planets orbiting inactive M dwarfs, found by TESS*, AJ, 161, 13W

12. Emily A. Gilbert, Thomas Barclay, Joshua E. Schlieder, ..., **Michele L. Silverstein**, et al. **2020**, *The First Habitable Zone Earth-sized Planet from TESS. I: Validation of the TOI-700 System*, AJ, 160, 116G
13. Jennifer G. Winters, Todd J. Henry, Wei-Chun Jao, John P. Subasavage, Joseph P. Chatelain, Ken Slatten, Adric R. Riedel, **Michele L. Silverstein**, and Matthew J. Payne **2019**, *The Solar Neighborhood. XLV. The Stellar Multiplicity Rate of M Dwarfs within 25 pc*, AJ, 157, 216W
14. Roland Vanderspek, Chelsea X. Huang, Andrew Vanderburg, George R. Ricker, ..., **Michele L. Silverstein**, et al. **2019**, *The TESS Search for Exoplanets in the Solar Neighborhood: An Ultra-Short-Period Super-Earth Orbiting LHS 3844*, ApJL, 871, L24
15. Adric R. Riedel, **Michele L. Silverstein**, Todd J. Henry, Wei-Chun Jao, Jennifer G. Winters, John P. Subasavage, Lison Malo, and Nigel C. Hambly **2018**, *The Solar Neighborhood. XLIII. Discovery of New Nearby Stars with $\mu < 0.''18\ yr^{-1}$ (TINYMO sample)*, AJ, 156 49
16. Todd J. Henry, Wei-Chun Jao, Jennifer G. Winters, Sergio B. Dieterich, Charlie T. Finch, Philip A. Ianna, Adric R. Riedel, **Michele L. Silverstein**, John P. Subasavage, and Eliot Halley Vrijmoet **2018**, *The Solar Neighborhood. XLIV. RECONS Discoveries within 10 parsecs*, AJ, 155 265
17. Wei-Chun Jao, Todd J. Henry, Jennifer G. Winters, John P. Subasavage, Adric R. Riedel, **Michele L. Silverstein**, and Philip A. Ianna **2017**, *The Solar Neighborhood. XLII. Parallax Results from the CTIOPI 0.9 m Program—Identifying New Nearby Subdwarfs Using Tangential Velocities and Locations on the H-R Diagram*, ApJ, 154 191
18. Tiffany D. Clements, Todd J. Henry, Altonio D. Hosey, Wei-Chun Jao, **Michele L. Silverstein**, Jennifer G. Winters, Sergio B. Dieterich, and Adric R. Riedel **2017**, *The Solar Neighborhood. XLI. A Study of the Wide Main Sequence for M Dwarfs — Long-Term Photometric Variability*, ApJ, 154 124
19. M. Simon, Joshua E. Schlieder, Ana-Maria Constantin, and **Michele Silverstein 2012**, *WISE Detection of the Circumstellar Disk Associated with 2MASS J0820-8003 in the η Cha Cluster*, ApJ, 751 114

Under Peer Review (1)

- **Michele L. Silverstein**, Tracy E. Clarke, Wendy M. Peters, Emil Polisensky, Jackie Villadsen, and Jordan M. Stone **2025**, *First Detection of an Ultracool Dwarf at 340 MHz: VLITE Observations of EI Cancri AB*, AJ, resubmitted following referee report, arXiv:2512.11120

Miscellaneous: Observing Manuals (1)

- Jen Winters, Todd J. Henry, **Michele L. Silverstein**, & Eliot Halley Vrijmoet, *SMARTS 0.9m Observing Manual*, Last Updated 26 November 2019, `http://www.astro.gsu.edu/~thenry/SMARTS/observing.manual.0.9m.2019.1126.pdf`

Presentations

Talks, Seminars, and Colloquia (21)

- Magnetic Radio Bursts from an Ultracool Dwarf Binary Detected Using VLITE (**2024, 2025**)
  - ◇ Invited Talk (20 min) – Sigma Xi Postdoc Poster Awards Seminar, Hybrid (In-person), Feb. 2025
  - ◇ Invited Talk (45 min) – University of Maryland Space and Cosmic Ray Physics Seminar Series, Virtual, Nov. 2024 (Recording)
- Exoplanet Demographics at the M Dwarf Fully Convective Boundary (**2022, 2023**)
  - ◇ Invited Talk (45 min) — Carnegie Institution for Science Earth and Planets Laboratory ("Carnegie EPL")

Spring Astronomy Seminar Series, Hybrid (In-person), May 2023
  - ◇ Contributed Talk (15 min) — Early Career Scientist Forum 2022 at NASA Goddard Space Flight Center, Hybrid (In-person Attendee), Oct. 2022
  - ◇ Invited Talk (25 min) — Jet Propulsion Laboratory Exoplanet Journal Club Meeting, Hybrid (Virtual), Oct. 2022
- Small Stars and Smaller Planets: A Tale of Observation, Discovery, and Fundamental Properties (**2022**)
  - ◇ Invited Talk (45 min) — Seminar Series at the Naval Research Laboratory in Washington D.C., Hybrid (In-person), Nov. 2022
- Transit Timing Variations in the LHS 1678 System and Validation of the Venus-Zone Planet LHS 1678 d (**2022**)
  - ◇ Contributed Talk (10 min) — 240th Meeting of the American Astronomical Society, Hybrid (Virtual), Jun. 2022, Presentation 320.02
- M Dwarf Magnetic Activity Cycles and Flares – The Star-Planet Connection (**2021, 2022**)
  - ◇ Contributed Talk (7 min) — Sellers Exoplanet Environments Collaboration (SEEC) Meeting 2022, Virtual, Feb. 2022
  - ◇ Flash Talk (5 min) — SEEC Retreat 2021, Virtual, Feb. 2021
- LHS 1678: A Humble Exoplanet System in Peculiar Circumstances (and assorted titles) (**2020, 2021**)
  - ◇ Invited Talk (10 min) — NASA Postdoctoral Program Symposium, Virtual, Aug. 2021
  - ◇ Invited Talk (45 min) — New Mexico Tech Physics Colloquium, Virtual, Apr. 2021
  - ◇ Contributed Talk (10 min) — 237th Meeting of the American Astronomical Society, Virtual, Jan. 2021, Presentation #239.05
  - ◇ Contributed Talk (15 min) — Early Career Scientist Forum 2020 at NASA Goddard Space Flight Center, Virtual, Nov. 2020
  - ◇ Invited Talk (12 min) — NASA Goddard Space Flight Center Sciences and Exploration Directorate Director's Seminar, Virtual, Jun. 2020
- Small Stars, the LHS 1678 Exoplanet System, and My Astronomy Career Path (**2020**)
  - ◇ Invited Talk and Discussion (60 min) — University of Maryland AstroTerps Astronomy Club, Virtual, Nov. 2020
- Sizing Up Red Dwarfs in the Solar Neighborhood (**2019**)
  - ◇ Contributed Talk (5 min) — SEEC Symposium, NASA Goddard Space Flight Center, Nov. 2019
  - ◇ Invited Talk (45 min) — Weekly Seminar Series, Carnegie Institution of Washington Department of Terrestrial Magnetism, Oct. 2019
  - ◇ Contributed Talk (15 min) — Chesapeake Bay Area Exoplanet Meeting, University of Delaware, Sep. 2019
  - ◇ Invited Talk (45 min) — Exoplanets Seminar Series, NASA Goddard Space Flight Center, Jun. 2019
  - ◇ Dissertation Talk (20 min) — 233rd Meeting of the American Astronomical Society, Seattle, WA, Jan. 2019, Presentation 420.04D
- Hints of Planet Formation in Nearby Young Moving Groups (**2011**)
  - ◇ Contributed Talk (15 min) — Stony Brook University REU Physics & Astronomy Research Symposium, Presentation 2

Posters (18)

- First Detection of an Ultracool Dwarf at 340 MHz: VLITE Observations of EI Cancri AB
  Michele L. Silverstein, Tracy E. Clarke, Wendy M. Peters, Emil Polisensky, Jordan M. Stone **2025**, Sigma Xi: NRL Postdoc Poster Session

- Magnetic Radio Bursts from an Ultracool Dwarf Binary Detected Using VLITE
  Michele L. Silverstein, Tracy E. Clarke, Wendy M. Peters, Emil Polisensky, Jordan M. Stone **2024, 2025**
  1. Know Thy Star Know Thy Planet 2 Conference, 2025, Poster #5.03
  2. Sigma Xi: NRL Postdoc Poster Session, 2024 (**Contest Winner!**)
  3. Cool Stars 22 Conference, 2024, Poster #92
- Exoplanet Demographics and Evolution at the M Dwarf Fully Convective Boundary
  Michele L. Silverstein, Joshua E. Schlieder, Thomas Barclay, Ian Urquhart, Shawn Domagal-Goldman, and Ravi Kopparapu **2023**, 241st Meeting of the American Astronomical Society, Poster #369.02
- Investigating Exoplanet System Trends at the M Dwarf Convective Boundary
  Michele L. Silverstein, Joshua E. Schlieder, and Thomas Barclay **2022**, Cool Stars 21 Conference, Poster #137
- An Unusual History - Investigating Exoplanet System Trends at the M Dwarf Convective Boundary and Gaia Gap
  Michele L. Silverstein & Joshua E. Schlieder **2022**, Exoplanets IV Conference, Poster #102.343
- Starspot Coverage and the Temperature-Dependent Radius Dispersion of Low-Mass Stars
  Michele L. Silverstein & Joshua E. Schlieder **2022**, Fifty Years of the Skumanich Relations Meeting
- The LHS 1678 System: Two Small Planets and a Likely Brown Dwarf Orbiting a Nearby M Dwarf in Unconventional Circumstances
  Michele L. Silverstein, Joshua E. Schlieder, Thomas Barclay, et al. **2021**, TESS Science Conference II, Zenodo Poster #5116835
- Discovery and Characterization of Two Earth-Sized TESS Planets Orbiting a Bright, Nearby M2 Dwarf
  Michele L. Silverstein, Joshua E. Schlieder, Thomas Barclay, et al. **2020**, 235th Meeting of the American Astronomical Society Poster Session, Poster #174.25
- Sizing Up Red Dwarfs in the Solar Neighborhood
  Michele L. Silverstein, Todd J. Henry, Sergio B. Dieterich, Wei-Chun Jao, Jennifer G. Winters, Tiffany D. Clements, Adric R. Riedel, and Kenneth J. Slatten **2019**,
  1. SEEC Symposium at NASA Goddard Space Flight Center
  2. Early Career Scientist Forum at NASA Goddard Space Flight Center, Poster P-25
- Sizing Up Southern Red Dwarfs in the Solar Neighborhood: First Results
  Michele L. Silverstein, Todd J. Henry, Wei-Chun Jao, Sergio B. Dieterich, Jennifer G. Winters, Adric R. Riedel, and Kenneth J. Slatten **2018**, Cool Stars 20 Poster Session, Poster #286
- Sizing Up Southern Red Dwarfs in the Solar Neighborhood
  Michele L. Silverstein, Todd J. Henry, Wei-Chun Jao, Adric R. Riedel, Sergio B. Dieterich, Jennifer G. Winters, Kenneth J. Slatten, Tiffany D. Clements, and R. Andrew Sevrinsky **2017**, 229th Meeting of the American Astronomical Society Poster Session, Poster #154.12
- Fundamental Parameters of Nearby Southern Red Dwarfs: Stellar Radius as an Indicator of Age
  Michele L. Silverstein, Todd J. Henry, Jennifer, G. Winters, Wei-Chun Jao, Adric R. Riedel, Sergio B. Dieterich, and R. Andrew Sevrinsky **2016**, 227th Meeting of the American Astronomical Society Poster Session, Poster #145.05, **Chambliss Astronomy Achievement Student Award Winner**
- SIRENS: The Search for InfraRed Excesses around Nearby Stars
  Michele L. Silverstein, Todd J. Henry, Wei-Chun Jao, and Jennifer G. Winters **2015**, IAU Symposium 314: Young Stars & Planets Near the Sun, Poster P1.16
- Circumstellar Environments of Southern M Dwarfs in the Solar Neighborhood,

Michele L. Silverstein, Todd J. Henry, Wei-Chun Jao, and Jennifer G. Winters **2015**, 225th Meeting of the American Astronomical Society Poster Session, Poster #138.03

- Completion of a Martin-Puplett Interferometer for Terahertz Frequency Characterization of Materials and Passive Components
  Michele Silverstein & Negar Ehsan **2012**, Goddard Space Flight Center Summer Intern Poster Session

Grants and Awards

Ground-based observing proposals are listed under Observing Experience, with 9 successful proposals as principle investigator.

Principal Investigator

- **Sigma Xi Best Poster Award** — **December, 2024**
  Sigma Xi: NRL Postdoc Poster Session — *1-year Sigma Xi Membership & Sigma Xi Seminar Invitation*
- **National Research Council (NRC) Research Associateship Program** — **April, 2023**
  Project: "Constructing an Unprecedented VLITE Radio Transient Catalog to Probe the Mysteries of Magnetic Activity in Fully Convective M Dwarfs" — *Two Years of Funding as a Postdoctoral Associate*
- **TESS Cycle 4 Guest Investigator Program G04188** — **May, 2021**
  Project: "M Dwarf Magnetic Activity Cycles And Flares" — *Targets Observed*
- **SEEC Internal Scientist Funding Model Support FY-22** — **March, 2021**
  Sellers Exoplanet Environments Collaboration (SEEC) — *$65k for Stellar Activity & Exoplanets Study*
- **TESS Cycle 3 Guest Investigator Program G03226** — **May, 2020**
  Project: "M Dwarf Flares Through Time III" — *Targets Observed*
- **NASA Postdoctoral Program Fellowship** — **August, 2019**
  NASA Postdoctoral Program — *Two Years of Funding as a Postdoctoral Fellow*
- **Sigma Xi Grant-in-Aid of Research** — **December, 2016**
  Sigma Xi, The Scientific Research Society — *$2500 for Travel to CTIO*
- **Chambliss Astronomy Achievement Student Award** — **January, 2016**
  229^{th} American Astronomical Society Meeting — *Personalized Medal*
- **Outstanding Second Year Graduate Student Award in Astronomy** — **April, 2015**
  Georgia State University — *$100 + Certificate*

Co-Investigator

- **TESS Cycle 4 Guest Investigator Program G04222 (PI T. Monsue)** — **May, 2021**
  Project: "And Now for Something Completely Different: Flares and Oscillations" — *$70k*
- **TESS Cycle 4 Guest Investigator Program G04212 (PI R. Paudel)** — **May, 2021**
  Project: "Using Tess 20-S Cadence Data To Study Flares On M Dwarfs" — *$70k*
- **TESS Cycle 4 Guest Investigator Program G04247 (PI L. Vega)** — **May, 2021**
  Project: "Measuring the Highly Active Star Wolf 359 Using Optical, X-ray, and Ultra-Violet Observations" — *$70k*
- **NASA Astrophysics Data Analysis Program (ADAP) 2020 (PI J. Schlieder)** — **April, 2021**
  Project: "M Dwarf Flares Through Time" — *$59,336*

- **NICER Cycle 3 Guest Investigator Program (PI R. Paudel)** **February, 2021**
  Project: "A Study of M Dwarf Flares Using Simultaneous High Cadence Multi-wavelength Data" *$22k*
- **TESS Cycle 3 Guest Investigator Program G03195 (PI V. Kostov)** **May, 2020**
  Project: "Discovering Circumbinary Planets With TESS" *$50k*
- **TESS Cycle 3 Guest Investigator Program G03273 (PI L. Vega)** **May, 2020**
  Project: "Exploring the Star-Planet Connection via Simultaneous TESS and Swift Observations of Highly Active M Dwarfs" *$50k*
- **NICER Cycle 2 Guest Investigator Program (PI R. Paudel)** **February, 2020**
  Project: "Multiwavelength observations of highly active M dwarfs" *$22k*
- **NSF Stellar Astronomy & Astrophysics Program #1715551 (PI T. Henry)** **August, 2017**
  Project: "RECONS Explores the Nearest Stars" *$495,997*

Miscellaneous Service

- *Organizer for Naval Research Laboratory Astronomy Talks Series* (2024-present)
- *Subject-matter expert reviewer in a Las Cumbres Observatory (LCO) peer review* (2024) - Reviewed twenty one ∼6-page proposals
- *NASA Goddard Space Flight Center Exoplanet Group Meeting Co-leader* (November, 2021 - January, 2023)
- *Subject-matter expert reviewer in a NASA peer review* (2021, 2022) - Reviewed four 5 to 10 page proposals
- *Abstract Sorter* - 237th and 240th Meetings of the American Astronomical Society (2020, 2022) - Sorted oral and poster abstracts into a variety of appropriately themed sessions
- *Chambliss Astronomy Achievement Student Awards Judge* - 235th Meeting of the American Astronomical Society (2019) - judged the posters and presentations of 3 graduate students and 1 undergraduate student

Languages

English	German	Spanish	Mandarin Chinese
fluent	*elementary proficiency*	*elementary proficiency*	*elementary proficiency*

Martial Arts

Taekwondo	red (8th) belt
Filipino Kali	orange (3rd) belt — World Modern Arnis Alliance (WMAA) member
Additional Experience:	Boxing, Muay Thai, Brazilian Jiu Jitsu, Jeet Kune Do, Tai Chi, Wing Chun, Aikido, Wushu, Hapkido